BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED
10-06-14
04:59 PM

Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769.	Rulemaking 14-08-013 (Filed August 14, 2014)

REPLY COMMENTS OF THE OFFICE OF RATEPAYER ADVOCATES ON THE ORDER INSITUTING RULEMAKING REGARDING POLICIES, PROCEDURES AND RULES FOR DEVELOPMENT OF DISTRIBUTION RESOURCES PLANS

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October 6, 2014

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I. INTRODUCTION

Pursuant to the August 14, 2014, *Order Instituting Rulemaking Regarding Policies, Procedures and Rules for Development of Distribution Resources Plans Pursuant to Public Utilities Code Section 769* (OIR or R.14-08-013), the Office of Ratepayer Advocates (ORA) respectfully replies to parties' opening comments on the OIR.

Thirty-four parties,[1] including ORA, filed opening comments on the OIR to guide California investor-owned electric utilities (IOUs) in developing their

[1] ORA received comments from the following parties: Alarm.com and EnergyHub, Alliance for Retail Energy Markets (AReM), Bioenergy Association of California (BAC), California Association of Sanitation Agencies (CASA) and Waste Management (WM), California Association of Small and Multijurisdictional Utilities (CASMU)—Bear Valley Electric Service, Liberty, PacifiCorp, California Energy Storage Alliance (CESA), California Independent System Operator Corporation (CAISO), California Solar Energy Industries Association (CALSEIA), Clean Coalition, Coalition of California Utility Employees (CUE), Environmental Defense Fund (EDF), Green Power Institute (GPI), Green Technology Leadership Group (GTLG), Interstate Renewable Energy Council Inc (IREC), Joint Demand Response (DR) Parties—EnerNOC, Johnson Controls, Comverge, Joint LDES—EnerVault, Imergy, Primus, UniEnergy, ZBB Energy Corporation, Marin Clean Energy (MCE), Mission: Data, Natural Resources Defense Council (NRDC), Nest Labs, Inc (Nest), NRG Energy Inc (NRG), Pacific Gas and Electric (PG&E), Petra, Physicians Scientist & Engineers for Healthy Energy (PSE), Qado Energy Inc, San Diego Gas & Electric (SDG&E), Solar Energy Industries Association (SEIA), SolarCity, Southern California Edison (SCE), Tendril, The Utility Reform Network (TURN), Vote Solar, Wal-Mart Stores Inc and Sam's West Inc (Walmart), and Word Business Academy (Academy).

Distribution Resources Plan Proposals (DRPs). ORA and many parties recognize the need for the Commission to provide timely guidance to the IOUs for their DRPs, which are due to the Commission by July 1, 2015 pursuant to Assembly Bill (AB) 327 and the California Public Utilities Code (PU Code) Section 769.[2] ORA's reply comments below respond to many, but not all of the issues raised in the parties' comments. Silence on any of the issues should not be construed as assent.

II. DISCUSSION

A. What specific criteria should the Commission consider to guide the IOUs' development of DRPs, including what characteristics, requirements and specifications are necessary to enable a distribution grid that is at once reliable, safe, resilient, cost-efficient, open to distributed energy resources, and enables the achievement of California's energy and climate goals?

ORA supports the CAISO's near term proposal to identify locations that can accommodate significant Distributed Energy Resources (DER)[3] development without major upgrades to distribution infrastructure.[4] ORA also supports SCE's position that:

> "[o]ptimal location criteria should focus on the primary underlying cost-benefit analysis: (1) the costs saved by the deferral of a traditional capital investment in the distribution system, compared to (2) the costs associated with the DER that allows such deferral."[5]

These proposals align well with PU Code Section 769 which requires that the evaluation of locational benefits and costs of distributed resources located on the distribution system "…shall be based on … avoided or increased investments in distribution infrastructure … and any other savings the distributed resources provides to the electric grid or costs to ratepayers." Therefore, consistent with Section 769, the IOUs' DRPs should maximize

[2] See e.g., PG&E Opening Comments, p. 1; SCE Opening Comments, p.1; Joint LDES Opening Comments, p.1.

[3] Section 769 of the PU Code defines "distributed resources" to mean distributed renewable generation resources, energy efficiency, energy storage, electric vehicles, and demand response technologies.

[4] CAISO Opening Comments, p. 9.

[5] SCE Opening Comments, p. 4.

ratepayers' benefits and minimize ratepayers' costs. Consequently, the Commission should "adopt criteria, benchmarks, and accountability mechanisms to evaluate the success of any investment authorized pursuant to a distribution resources plan."[6] These criteria should include a mechanism to evaluate whether the costs are just and reasonable.

SCE suggests that:

> "….given the complexity and uncertainty inherent in changing the existing distribution planning process to incorporate reliance on new technologies in novel ways….there should also be a parallel identification of a utility capital project that can be relied upon as a backstop."[7]

While there is uncertainty in the reliance on new technologies for system reliability, any utility capital project identified to function as a backstop should avoid excess cost to the ratepayers. The capital projects identified to function as a backstop should at least be smaller in cost in comparison to the traditional capital investment deferred, otherwise it defeats the purpose of the initial deferment. Each utility capital project identified to function as a backstop should be evaluated on a project by project basis to determine cost and need.

1. What specific elements must a DRP include to demonstrate compliance with the statutory requirements for the plan adopted in AB 327?

- Discussion of Methodology, Assumptions, and Definitions

A number of parties agree with ORA's recommendation that the Commission should ensure that each DRP include a discussion of the IOU's proposed methodology, assumptions and definitions used in its DRP.[8] For example, the Joint DR Parties state:

> "[t]he Commission and all stakeholders need to develop transparent methods, tools, criteria, and guidelines

[6] PU Code Section 769.

[7] SCE Opening Comments, p. 4.

[8] ORA Opening Comments, p. 3-4.

> appropriate to the tasks of valuing, and maximizing the value, of DERs."[9]

TURN also makes a similar recommendation that "[e]ach DRP submitted by an IOU must include a framework for quantifying the value of various DERs in particular system locations."[10]

SolarCity also suggests that the modeling methodology, input assumptions and definitions should be fully vetted since:

> "[d]ifferent technologies and deployment scenarios will likely yield very different results. To conduct such complex analysis, it is critical that the utilities engage with stakeholders to vet their modeling methodology and identify a set of reasonable scenarios and input assumptions to be assessed. Once developed, these models should evaluate and compare different scenarios against metrics that can be mapped to each of the benefit categories identified in statute."[11]

ORA urges the Commission, to the extent feasible, develop a uniform set of modeling methodologies, assumptions and definitions to be used by the IOUs to appropriately quantify the value of various DERs.

- Short-Term and Long-Term Goals

A number of parties agree with ORA's proposal that:

> "[t]he qualitative analysis and discussion of the results in the short-term should be prioritized, per PU Code Section 769(b)(2-3), as the Commission already has a number of DER programs in place. The coordination of existing Commission-approved programs in a holistic and "cost-effective" way could yield net benefits to ratepayers within a relatively short time-frame. Once the coordination of an existing Commission-approved program is completed, the focus

[9] Joint DR Parties Opening Comments, p. 9.

[10] TURN Opening Comments, p. 3.

[11] SolarCity Opening Comments, p. 3-4.

> should then shift to more medium and long-term goals as discussed in PU Code Section 769(b)(1, 4 and 5)."[12]

Both IREC and Clean Coalition make similar recommendations on how to prioritize DRPs. IREC suggests:

> "that the Commission require the IOUs to address both short-term and long-term strategies in their DRPs. Short-term steps should include changes that can be made in the next one to five years, such as particular investments necessary to integrate DER, and particular tariffs, contracts or other mechanisms for deploying DER."[13]

Similarly, the Clean Coalition recommends that by July 1, 2015 (first of three steps), the IOUs should be required to propose for Commission approval "[p]roposals for effectively coordinating existing and pending programs, incentives, and tariffs to maximize the locational benefits and minimize the incremental costs of DERs."[14] In considering the Commission's compliance with PU Code Section 769, ORA contends that it would be prudent to prioritize the State's DER goals over different time frames. At minimum, the Commission should prioritize compliance with PU Code Section 769(b)(1-3) because coordination of existing Commission-approved programs in a holistic and "cost-effective" way could yield net benefits to ratepayers within a relatively short time-frame. In addition, the Commission should consider the multiple proceedings addressing DER related costs, and determine in what sequence these proceedings should occur, and how decisions regarding costs in one proceeding affects the other related proceedings.

- Barriers to the Deployment of Distributed Resources

In the opening comments, a number of parties[15] suggest that each DRP should identify barriers to the deployment of distributed resources. ORA concurs. Identifying the barriers to the deployment of distributed resources and determining how these barriers

[12] ORA Opening Comments, p. 4.

[13] IREC Opening Comments, p. 8.

[14] Clean Coalition Opening Comments, p. 4.

[15] SCE Opening Comments, p. 5, PG&E Opening Comments, p. 2 , IREC Opening Comments, p. 7, SolarCity Opening Comments, p. 4, EDF Opening Comments, p. 5.

could be removed would make it easier for the Commission, IOUs, and other stakeholders to identify actions needed under short-term, mid-term and long-term goals to comply with PU Code Section 769.

2. What specific criteria should be considered in the development of a calculation methodology for optimal locations of DERs?

Some parties[16] suggest that avoided costs should be taken into account when determining the optimal location of DERs in order to simulate a "market price" for energy. CESA,[17] suggests incorporating the concept of Distribution Marginal Price (DMP) in the DER pricing. At its most basic, ORA understands DMP to involve the detailed, location-specific computation of the marginal costs of distribution energy services, completely analogous to the Locational Marginal Price (LMP) for energy and, together with LMP, would provide an efficient economic basis for compensating DER. ORA concurs *in principle* with these marginal-cost-based DER pricing concepts, but cautions that the outright endorsement of any specific methodology, much less any, specific software-generated price metric[18] at this juncture is premature. Careful consideration of avoided costs in determining optimal DER locations and the associated pricing schemes should be given a high priority.

In addition, ORA agrees with NRG[19] that greater transparency is needed in distribution system requirements. ORA also agrees with PSE[20] that islanding is not necessarily an adverse issue and may have utilitarian advantages, such as providing individual customers with greater control over the cost, quality, and reliability of their

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[16] See e.g. EDF Opening Comments, p.6, Joint DR Parties Opening Comments, p. 9, Petra Opening Comments, p.6, NRDC Opening Comments, p.3, SolarCity Opening Comments, p. 6.

[17] CESA Opening Comments, p. 3.

[18] CESA Opening Comments, p. 3 ("CESA recommends that during this proceeding, the utilities and other stakeholders conduct a thorough review of the Distribution Marginal Price ("DMP") concept (e.g. DMPs as presented by Integral Analytics)." http://www.greentechmedia.com/articles/read/distributed-marginal-price-dmp-the-new-metric-for-thegrid-edge.

[19] NRG Opening Comments, p. 6.

[20] PSE Opening Comments, p. 4.

electric service in general, with greater technical reliability or security against sabotage. Islanding has been clarified in Institute of Electrical and Electronics Engineers (IEEE) standards and Rule 21 to distinguish "unplanned islanding" from "planned islanding." Additionally, ORA agrees with Vote Solar[21] and Walmart[22] in emphasizing the importance of avoiding barriers to customers choosing their DER technology in the improvement of integrated distribution planning. Customer values often extend beyond "least cost" and include power quality, reliability, security, and safety.

3. What specific values should be considered in the development of a locational value of DER calculus? What is optimal means of compensating DERs for this value?

The CAISO states that:

> "if the CAISO's planning studies indicate a need for a reliability upgrade to the transmission system by a certain date in the future, DER projects that would commence operation later may have very little value compared to projects that can meet the target date."[23]

While ORA understands the rationale behind this argument, the CAISO must consider how far "later" the DER projects would commence and if the CAISO's target in-service date for reliability upgrade is flexible. For example, if the operational date of the DERs is only one or two months beyond the CAISO's predetermined in-service date, then the DERs should still be considered over traditional IOU investments.

4. What specific considerations and methods should be considered to support the integration of DERs into IOU distribution planning and operations?

The compensation to DER owners, as well as any fees they may be charged are the subject of an ongoing proceeding (R.14-07-002).[24] ORA recommends that any

[21] VoteSolar Opening Comments, p. 4.

[22] Walmart Opening Comments, p. 4.

[23] CAISO Opening Comments, p. 11.

[24] Order Instituting Rulemaking to Develop a Successor to Existing Net Energy Metering (NEM) Tariffs Pursuant to Public Utilities Code Section 2827.1, and to Address Other Issues Related to Net Energy Metering.

considerations and methods made in that proceeding be applied in this OIR to support the integration of DERs into IOU distribution planning and operations.

5. What specific distribution planning and operations methods should be considered to support the provision of distribution reliability services by DERs?

The CAISO notes that it is important for the IOUs to distinguish between DER whose performance capabilities enable the IOUs' ability to provide services to support distribution system operation, and those that do not.[25] ORA recommends that any distinction the IOUs make must be clearly documented, and to include details explaining why the DER is not suitable for interconnection. The CAISO also provides the recommendation that:

> "structure of financial incentives can shift towards encouraging developers to build these capabilities into their projects and refrain from developing projects that are more passive and impose volatility on the distribution system."[26]

ORA also agrees with this recommendation. To implement this recommendation, IOUs must identify and document the factors that make one DER preferable to others and make this information available to DER applicants. The documents should be made public to stakeholders, with adequate protection for sensitive market and energy data. This will enable the applicants to be aware beforehand the types of DERs needed to effectively and efficiently support the IOUs distribution system operation.

6. What types of benefits should be considered when quantifying the value of DER integration in distribution system planning and operations?

As noted in question #5, the value of DER and the compensation to DER owners is the subject of the current NEM rulemaking (R.14-07-002). The scope of the NEM rulemaking includes consideration of the ratemaking treatment for DER

[25] CAISO Opening Comments, p. 11-12.

[26] CAISO Opening Comments, p. 11.

owners that should replace the current Net Energy Metering tariffs taking into account the value of DER integration into the grid. The same issues arise in both the NEM Rulemaking and this proceeding. IOUs should be planning for and considering the costs and benefits of DER integration to the grid. On an ongoing basis, the IOUs should be examining their distribution infrastructure to see how DER would affect the distribution system. The types of benefits that should be considered in quantifying the value of DER integration are specific to each DER and include:

- The location of the DER – is the interconnection helpful or harmful to the reliability of the particular circuit?
- The output profile of the DER – how much energy is produced, and at what hours? Does the output profile help meet demand shortfalls? Will the output profile, when matched with the location improve system reliability or safety?
- DER as replacement of other resources of infrastructure – how is the IOU planning for the continued growth of DER, and how is that resulting in changes in infrastructure maintenance/construction plans, as well as long-term procurement decisions.

7. What criteria and inputs should be considered in the development of scenarios and/or guidelines to test the specific DER integration strategies proposed in the DRPs?

ORA agrees with GPI comments[27] that though the legislation requires optimal locations for the deployment of DER in various distribution circuits, the actual build-out of DER may be different than the projected optimal configuration. This is because developers may tend to install DER relevant to their own individual circumstances, and not to the optimal needs of the grid. These scenarios should be considered in addition to the base-case scenario. Furthermore, while IOUs should accommodate DER interconnection requests, they should also follow the cost causation principle.[28] The

[27] GPI Opening Comments, p. 6.

[28] The costs should be borne by whoever incurs the costs.

interconnection costs DER developers pay should be commensurate with the cost the IOUs incur in providing the interconnection requests. ORA also agrees with GPI that an important criterion for constructing additional scenarios is that the alternative scenarios should present significantly different DER configurations than the configuration in the base-case scenario.

ORA also agrees with SDG&E that the *More Than Smart* effort mentioned in the response to Question 16 is the appropriate place to develop guidelines and scenarios to test DER integration strategies. As SDG&E noted in its comments, the four grid end states identified in the *More Than Smart* paper represent the scenarios that should frame the analysis for DER integration.

8. What types of data and level of data access should be considered as part of the DRP?

In its opening comments, Nest recommends that the Commission:

> "err on the side of overprotection in considering potential DER programs to avoid even the perception that consumer data is being shared unnecessarily or in a manner that could intrude on people's privacy."[29]

ORA agrees with Nest's assessment. Consistent with the State's stringent privacy policies,[30] the Commission has gone to great lengths to secure and protect utility customers' energy usage data,[31] while providing parties pathways to access data as specifically authorized by the Commission.[32] PG&E also does not oppose access to customer energy data as long as it is "consistent with the Commission's rules to protect the privacy of customer-specific information and the confidentiality of market-sensitive, proprietary and other sensitive information."[33] ORA agrees.

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[29] Nest Opening Comments, p. 8.

[30] PU Code Section 8380. Also see, California Constitution, Article 1, Section 1, which declares privacy as an inalienable right of the People.

[31] See, D.11-07-056, D.12-08-045 & D.14-05-016; in R.08-12-009.

[32] D.13-09-025; in A.12-03-002, et al. Also see, D.11-07-056 & D.14-05-016; in R.08-12-009.

[33] PG&E Opening Comments, p. 7.

NRG states that "customers need to own their own information and utilities should be required to provide customers with that information as part of their monopoly charter."[34] ORA agrees. The Commission addressed this issue in its decision authorizing the IOUs to provide third parties access to customer data when requested by the customer.[35] In D.13-09-025, the Commission adopted the IOUs' data access platforms that allow consenting customers to send their energy usage data to third parties so long as the third parties meet certain criteria.[36] The decision to enable customers to access and use their data is consistent with the Commission's "Privacy Rules"[37] that require the IOUs to "provide to customers upon request convenient and secure access to their [energy usage] information."[38] In addition, the IOUs launched their respective "Green Button" initiatives that:

> "provides customers access to standardized energy usage and historical billing reports that they can share with energy service providers in order to help them find ways to reduce their energy consumption and save money."[39]

Given that the Commission and IOUs have provided customers a number of resources and pathways to access their energy usage data, the Commission should not revisit the issue here and should implement the Commission's adopted "Privacy Rules".

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[34] NRG Opening Comments, p. 9.

[35] D.13-09-025, Conclusion of Laws 15-17, p. 72.

[36] D.13-09-025, Ordering Paragraphs 17, 19, pp. 76-78.

[37] D.11-07-056, Decision Adopting Rules to Protect the Privacy and Security of the Electricity Usage Data of the Customers of Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas & Electric Company; in R. 08-12-009. Also see, D.12-08-045, which extends the Commission's Privacy Rules to Gas Corporations and Community Choice Aggregators, and to Residential and Small Customers of Electric Service Providers.

[38] D.11-07-056, Attachment D. Section 4(a), p. 4.

[39] Annual Report of Pacific Gas and Electric Company (U 39 E) on Status of Smart Grid Investments Pursuant to Ordering Paragraph 15 of D.10-06-047 (filed 10/01/13), retrieved from : http://www.cpuc.ca.gov/NR/rdonlyres/09D2DFD4-5ADB-4E25-A165-04CFF9CF0805/0/PGESmartGridAnnualReport_100113.pdf

9. Should the DRPs include specific measures or projects that serve to demonstrate how specific types of DER can be integrated into distribution planning and operation? If so, what are some examples that IOUs should consider?

ORA agrees with many parties[40] that several emerging DERs may benefit from utilization in demonstration projects. In particular, ORA finds GPI's example of smart charging of plug-in electric vehicles and the Joint LDES Parties' example of various types of flow battery technologies that can be integrated into distribution planning and operation of interest and worthy of further discussion, as they would offer greater choice of options, to producers, consumers and IOUs alike, to manage increasingly load flows.[41] Additionally, ORA concurs with the suggestions of PSE[42] and the Academy[43] that the increased deployment of microgrids could serve as valuable demonstration projects in the DRPs because one of the values of demonstration projects is that the Commission can have actual evidence of real costs, benefits, and risks of DER integration, rather than just academic speculations.

Suggestions from some parties for both phased roll-outs [44]and minimum levels of phasing[45] should be considered in workshops. ORA agrees with SolarCity[46] on both the practical value and policy importance of transparency in the development of these approaches.

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[40] Joint LDES Opening Comments, p. 7; NRDC Opening Comments, p. 6; Walmart Opening Comments, p. 7; IREC Opening Comments, p. 16; Petra Opening Comments, p. 5-6; GPI Opening Comments, p. 7.

[41] Joint LDES Opening Comments, p. 7; GPI Opening Comments, p. 7.

[42] PSE Opening Comments, p. 5.

[43] World Business Academy Opening Comments, p. 14-15.

[44] CESA Opening Comments, p. 6.

[45] Clean Coalition Opening Comments, p. 8.

[46] Solar City Opening Comments, p. 11.

10. What considerations should the Commission take into account when defining how the DRPs should be monitored over time?

Several parties provided a range of positions and recommendations regarding the factors the Commission should consider when defining how the DRPs should be monitored over time.[47] Most parties opined that the DRPs are living documents and should be revisited periodically.[48] ORA agrees. The DRP process is new and the DER technologies, customer behavior, and systems requirements and needs will evolve over time. ORA supports TURN's and SolarCity's specific recommendations:

> "The Commission should require each IOU to update its DRP on a biennial or triennial basis. Each update should include a summary of actions taken since the previous DRP submission along with estimates of net ratepayer savings achieved to date and a demonstration of how these savings have been transferred to ratepayers. The Commission should review this information as part of each successive DRP submission and monitor progress over time. Furthermore, the Commission may establish benchmarks to determine whether any goals or targets contained in any prior DRP have been achieved. Such benchmarks are critical if the IOU seeks any additional funding pursuant to §769(d)."[49]

Biennial or triennial DRP updates should permit the Commission to measure the benefits of the DRP and evaluate whether any goals or targets contained in the DRP have been achieved. Similarly, SolarCity states that it:

> "believes the Commission should require the plans to be revisited every 2-3 years and include both an independent evaluation/assessment of the utilities' success in

[47] See e.g. SCE Opening Comments, p. 14 ("SCE believes the DRPs should continue to be monitored following Commission approval, with an update approximately every three years."); CALSEIA Opening Comments, p. 7-8 (DRPs will need to be updated on a regular basis."); Walmart Opening Comments, p. 8 (Walmart recommends that DRPs should be reviewed initially at least annually."). GPI Opening Comments, p. 8 ("In the opinion of the GPI, the Commission should establish a cycle for revising the DRPs, and a plan for ongoing monitoring of progress towards the plans during the course of each cycle. Our suggestion is to create a three-to-five year cycle between major overhauls of the plans, bolstered by annual progress reports and reviews.")

[48] *Id*.

[49] TURN Opening Comments, p. 4.

> implementing the plans as well as a refresh of the underlying analyses. Additionally, it may be useful to have more frequent meetings of a DRP working group, perhaps once a quarter to discuss the utilities' efforts to implement the plans."[50]

ORA agrees and recommends that DRP working groups, organized by major issues,[51] which should consist of representatives from stakeholders, should be established to evaluate whether the major goals and objectives[52] of DER integration are being met.

11. What principles should the Commission consider in setting criteria to govern the review and approval of the DRPs?

- Competitive Neutrality

A number of parties[53] urge the Commission to ensure that competitive neutrality be observed. ORA concurs and recommends that competitive neutrality be one of the guiding principles in the approval of DRPs and the IOUs should explain in their DRPs how they will give equal treatment to various distributed energy resources.

- Review and Comments of DRPs

ORA agrees with opening comments from multiple parties[54] that the review process of DRPs should be open to stakeholders' to comment upon, critique, and then provide feedback to the IOUs and the Commission. Accordingly, ORA recommends the Commission to make DRPs publicly available, open to stakeholder review and feedback with necessary modifications enforced by the Commission.

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[50] SolarCity Opening Comments, p. 12.

[51] Some possible issues may include interconnection, grid integration and distribution planning, safety, cost effectives and benefits.

[52] ORA Opening Comments, p. 9-10.

[53] AReM Opening Comments, p. 3, IREC Opening Comments, p.18, CESA Opening Comments, p. 7, Marin Clean Energy Opening Comments, p. 8.

[54] CALSEIA Opening Comments, p. 8, SolarCity Opening Comments, p.13, EDF Opening Comments, p. 13, NRDC Opening Comments, p. 7.

12. Should the DRPs include discussion of how ownership of the distribution may evolve as DERs start to provide distribution reliability services? If so, briefly discuss those areas where utility, customer and third party ownership are reasonable?

ORA agrees with IREC and TURN that the Commission should provide guidance on the determination of DER ownership prior to the IOUs' development of the DRPs.[55] ORA also agrees with the parties that the Commission must critically analyze any proposals for IOU ownership of DER in order to determine whether rate-regulated utility investments are likely to be less, or more, costly to ratepayers than third-party ownership models.[56] As a policy matter, ORA reiterates that the reasonableness of ownership models should be developed in a public setting with the opportunity for parties' comment.[57] The Commission should consider the following guiding principles in deciding DER ownership:

- Any ownership models should increase real net-benefits to all ratepayers, while ensuring that participants are not exposed to unknown or unjustified risks; and
- Any ownership models should include an evaluation of the net present value costs and benefits to non-participants, taking into account different financing methods and the ability of various entities to flow tax benefits through to ratepayers.[58]

13. What specific concerns around safety should be addressed in the DRPs?

ORA agrees with both SCE[59] and SolarCity[60] that cyber security is a critical element to be addressed in the DRPs. SolarCity's idea of decentralized IT

[55] See e.g. IREC Opening Comments, p.19; TURN Opening Comments, p. 5.

[56] See e.g. TURN Opening Comments, p. 5; SolarCity, p.13-14;

[57] ORA Opening Comments, p. 10-11.

[58] TURN Opening Comments, p. 5.

[59] SCE Opening Comments, p. 17.

[60] SolarCity Opening Comments, p. 14-15.

architectures[61] has merit and should be further explored in this proceeding. As a general safety measure, decentralized, federated IT architectures[62] have the *potential* to be less vulnerable to catastrophic cyber breaches because unauthorized access to the distribution system is easily contained at the local, distributed level. Therefore, cyber security of the distribution system should be addressed as part of this proceeding.

14. What, if any, further actions, should the Commission consider to comply with Section 769 and to establish policy and performance guidelines that enable electric utilities to develop and implement DRPs? Attachment 1 to this order is a complete copy of AB 327 as enacted.

ORA does not have reply comments on this question at this time.

15. Appendix B to this rulemaking is a white paper that articulates one potential set of criteria that could govern the IOUs DRPs. Please review the attached paper and answer the following questions:

- **Integrated Grid Framework: the paper opens by presenting an 'Integrated Grid Framework', what additions or modifications would you suggest be made to this framework?**

ORA agree with SCE's and IREC's comments which capture ORA's concerns, that:

(a) the focus of this proceeding should be on developing an appropriate framework for implementing the DRPs,

(b) the framework presented in the *More Than Smart* paper offers a solid starting point for discussion and that it is important to identify policy goals up front;[63]

[61] SolarCity Opening Comments, p. 15.

[62] ORA's understanding of "Federated [IT] Architecture" is a particular approach in enterprise [IT] architecture that allows interoperability and information sharing between semi-autonomous de-centrally organized information technology systems and applications.

[63] SCE Opening Comments, p. 19; IREC Opening Comments, p. 21.

ORA agrees with SCE that DER integration is a significant undertaking, and that this proceeding must initially focus on establishing a framework to guide the development of the IOUs' DRPs.[64] ORA agrees with CESA,[65] the EDF,[66] the IREC[67] and Petra[68] that the Integrated Grid Framework presented in the *More Than Smart* paper should be modified to include a component that represents customer needs and desires. This element would more clearly represent the critical importance of customer engagement to the development of effective DERs.

ORA also agrees with SCE that a transparent process will ensure that ratepayers realize the net benefits from the optimal use of distributed resources at minimal cost.[69] PG&E states that "the paper should recognize that, while new demand response programs focused on mitigating issues related to intermittent generation may prove useful and should be developed, traditional peak shaving and emergency demand response programs will continue to remain relevant and provide value for customers for the foreseeable future."[70] ORA agrees that established, traditional programs that have been valuable in the past, may continue to play an important role in the future, but cautions that recognition of the value and importance of these traditional programs should not obfuscate that emerging DER, developed with a clear vision for the future and comprehensive, least-cost plans for integration, can play an even more vital role.

[64] SCE Opening Comments, p. 19.

[65] CESA Opening Comments, p. 8.

[66] EDF Opening Comments, p. 15.

[67] IREC Opening Comments, p. 21.

[68] Petra Opening Comments, p. 7.

[69] SCE Opening Comments, p. 19.

[70] PG&E Opening Comments, p. 10.

- **Integrated Distribution Planning: what, if any, additions or modifications would you suggest to the Integrated Distribution Planning section of this paper?**

ORA shares Petra's concerns that an Integrated Distribution Planning process will be challenging[71] due to ever-developing technologies and the fundamental nature of changing customer needs. Thus, stakeholders should first understand all of the endogenous and exogenous variables affecting distribution planning and DER integration and then continually modify the distribution plans on a regular basis to adapt to these changing variables. ORA finds PG&E's comments on the usefulness of scenarios and stress testing helpful, as a first step in this planning process, as well as their statement of the value of accommodating potential variability of deployments.[72] ORA agrees with SCE and IREC's comments that increasing transparency when possible will increase the magnitude and efficacy of stakeholder engagement.[73]

- **Distribution System Design-Build: what, if any, additions or modifications would you suggest to the Distribution System Design-Build section of this paper?**

ORA shares the SCE's concerns that:

> "… this proceeding must initially focus on establishing a framework to guide the development of these substantial plans…" and IREC's and Vote Solar's concerns that a "node-friendly electric network" needs further explanation.[74]

- **Integrated Distribution System Operations: what, if any, additions or modifications would you suggest to the Integrated Distribution System Operations section of this paper?**

IREC[75] and Petra's[76] concept of moving toward a "distribution system operator" (DSO) paradigm, in which the utility would manage the physical operation

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[71] Petra Opening Comments, p. 7.

[72] PG&E Opening Comments, p. 10.

[73] SCE Opening Comments, p. 19; IREC Opening Comments, p. 22.

[74] IREC Opening Comments, p. 22; VoteSolar Opening Comments, p. 17.

[75] IREC Opening Comments, p. 23.

of the system as well as the associated market operation, provided that an even-handed treatment and level playing field can be assured, should be further explored by the Commission in this proceeding. As a starting point, some possible questions for exploration may include:

- Is DSO necessary?
- What is the structure of a DSO?
- What are the impacts of a DSO on IOUs and ratepayers?

- **Integration of DER into Operations: what, if any, additions or modifications would you suggest to the Integration of DER into Operations section of this paper?**

ORA concurs with GPI and Vote Solar[77] concepts of Open Access, Open Architecture,[78] progress toward seamless, plug-and-play protocols for the electric services industry, and a level playing field for all technologies to participate in that industry, on a cost-of-service basis.

- **Integrated Grid Roadmap: what, if any, additions or modifications would you suggest to the Integrated Grid Roadmap section of this paper?**

ORA agrees with the CAISO's call for an Integrated Grid Roadmap[79] and the need to further explore this concept in this proceeding.[80]

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[76] Petra Opening Comments, p. 8.

[77] GPI Opening Comments, p. 10; VoteSolar Opening Comments, p. 17.

[78] Other parties' intentions notwithstanding, in the context of infrastructure, "open access" typically refers to the concept of having physical infrastructure (such as railways and telecommunications network plant) being made available to clients other than the owners, often for a fee. In the context of the electric services industry, this has been applied to metering and other data, and data communications systems, such that, while certain technical standards may be applicable, any equipment, systems, services or vendors meeting these specifications are able to participate on an equal basis. Open Architecture is a particular implementation of Open Access, using a particular set of standards, for use in a particular industry or infrastructure setting.

[79] As stated in the More Than Smart, pp 24-25, the integrated grid roadmap is a conceptual outline of a path that bridges the divide from today's realities to the opportunities envisioned in a more distributed future. This path is focused on the regulatory and industry actions needed over the next 1 to 3 years on the cross-cutting issues identified in the preceding sections of that reference paper to enable a graceful transformation of California's power system.

[80] CAISO Opening Comments, p. 18.

III. III. CONCLUSION

ORA urges the Commission to adopt ORA's recommendations in opening comments and the reply comments.

To guide the IOUs' development of DRPS and to ensure an effective and efficient implementation of DERs integration, the DRPs and DER integration should reflect the following fundamental principles:

- To maximize the benefits of the DER integration to all ratepayers,
- To minimize the costs of the DER integration to all ratepayers,
- To reduce green-house gas emissions,
- To promote advances in DER technologies,
- To lessen the impact of the DER integration to the utilities legacy systems,
- To reduce ratepayers' investment in transmission and distribution systems
- To ensure safe and reliable service,
- To reduce IUOs' power generation and overall operating costs,
- To reduce ratepayers' electric bill, and
- To ensure the safety of the utilities personnel, DER owners and the general public.

The Commission should establish and adopt criteria, benchmarks, and accountability mechanisms to evaluate the success and effectiveness of the DER integration in achieving these objectives. More specifically, the Commission should:

- Consider the costs and benefits specifically associated with the implementation of DERs,
- Evaluate and conclude that ratepayers would realize net benefits from the DERs proposed in the DRPs and the associated costs are just and reasonable, as stated in Section 769 of the Public Utilities Code,

- Adopt criteria, benchmarks, and accountability mechanisms to evaluate the success of any investment authorized pursuant to a DRP,
- Ensure that each DRP include a discussion of the IOU's proposed methodology, assumptions and definitions used in their DRPs,
- Develop a uniform set of modeling methodologies, assumptions and definitions to appropriately quantify the value of various DERs,
- Prioritize compliance with PU Code Section 769(b)(2-3) because coordination of existing Commission-approved programs in a holistic and "cost-effective" way could yield net benefits to ratepayers within a relatively short time-frame,
- Consider competitive neutrality as one of the guiding principles in the approval of DRPs and the IOUs should explain in their DRPs how they will give equal treatment to various distributed energy resources.
- Provide guidance on the determination of DER ownership prior to the IOUs' development of the DRPs and should critically analyze any proposals in order to determine whether rate-regulated utility investments are likely to be less, or more, costly to ratepayers than third-party ownership models.

Respectfully submitted,

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October 6, 2014

VERIFICATION

I, James M. Ralph, am counsel of record for the Office of Ratepayer Advocates in proceeding R.14-08-013, and am authorized to make this verification on the organization's behalf. I have read the **REPLY COMMENTS OF THE OFFICE OF RATEPAYER ADVOCATES ON THE ORDER INSITUTING RULEMAKING REGARDING POLICIES, PROCEDURES AND RULES FOR DEVELOPMENT OF DISTRIBUTION RESOURCES PLANS** filed on October 6, 2014. I am informed and believe, and on that ground allege, that the matters stated in this document are true. I declare under penalty of perjury that the foregoing are true and correct.

Executed on October 6, 2014 at San Francisco, California.

/s/ JAMES M. RALPH
JAMES M. RALPH